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BUILDING DEPARTMENT

CITY OF BOSTON

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ANNUAL REPORT

1943



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ANNUAL REPORT

OF THE

BUILDING DEPARTMENT

FOR THE

YEAR ENDING DECEMBER 31, 1943



CITY OF BOSTON
PRINTING DEPARTMENT
1944

THE BUILDING DEPARTMENT.

Organized October 2, 1871, to provide for the regulation and inspection of buildings, the more effective prevention of fire, and the better preservation of life and property. The department immediately became a vital force in providing public safety to the citizens of Boston.

DIVISIONS OF DEPARTMENT.

Annexed is a brief description of each division of the Building Department and also tables which by figures and statistics indicate the work performed during the year just passed.

ADMINISTRATIVE DIVISION.

Requirements of building law as they pertain to the establishment and recording of permits, licenses, documents, plans, surveys, reports, etc., naturally involve a considerable amount of clerical work. The functioning of the various divisions composing the Building Department is largely dependent upon the efficiency of the clerical personnel. Their constant interest in the preparation and circulation of documents, drawings, forms and orders, is such that their services are invaluable.

CONSTRUCTION DIVISION.

Operates almost entirely in the field and is charged with the inspection of all buildings, except Federal and County buildings. The area of the city has been divided into districts and the Building Inspector in each district examines the materials and methods of construction now used in modern building and enforces, to the best of his ability, the requirements of statute law designed for the protection of life, limb and property. The statistics for the year 1943 are as follows:

INSPECTIONS AND REPORTS.	
New buildings	1,402
Alterations	15,802
Existing buildings	8,738
Boilers	110
Building accidents	17
Fires	1,071
	<hr/>
	27,140
	<hr/>

EGRESS DIVISION.

Broadly speaking, the work of the Egress Division consists of the application of the rule of common sense to the problem of providing adequate means for removing persons expeditiously from buildings or structures in case of emergency and of seeing that adequate egress is maintained. Included in the duties of this division is the inspection of theatres, moving picture houses, places of public assembly, hospitals, lodging houses, fraternity houses, homes for the aged, hotels, etc.

This division also makes night inspections wherever large audiences are anticipated for the purpose of keeping available to the public unobstructed means of egress and fire protection.

Examinations made during 1943:

Classification.	No.
Theatres*	2,028
Movies*	785
Public halls	1,996
Stadia	1
Homes for aged	400
Homes for children	8
Funeral homes	2
Homes for inebriates	3
Nurses' homes	35
Infants' homes	29
Settlement houses	1
Hospitals	288
Nurseries	32
Apartment houses	126
Hotels	983
Lodging houses	1,361
Dwellings	153
Garages	4
Mercantile	165
Factories	71
Offices	11
Schools	34
Clubs	11
Dormitories	2
Libraries	19

* Includes day and night inspections.

Classification.	No.
Churches	1
Synagogues	7
Convents	1
Restaurants	27
Taverns	8
Bowling alleys	35
Billiard rooms	2
Fire escapes	396
Complaints	451
Titles	737
Court	82
Consultations	1,603
Plans examined	426
Fences	9
Total	17,246
Letters sent	3,108
Letters received	454
Night and holiday inspections *	330
Special officers' reports	1,021

* Includes day and night inspections.

PLAN DIVISION.

Existing building law requires the submission of drawings indicating by architectural, engineering and mechanical design the type and class of construction, the occupancy, the materials which compose the structure proper, the dimensions designing areas, sizes of rooms and heights of building, width of stair halls and other egresses, percentages of area of lot occupied by the building, mechanical installations, locations of and sizes of exterior fire escapes, balconies, etc.

Drawings are examined and approved or disapproved by the Zoning, Egress and Plan Divisions, also the Plumbing, Gasfitting, Elevator and Sprinkler Divisions, and the Health Department and Park Department when the administration of regulations of these departments are applicable.

The citizens of the city have been so long accustomed to the results of the work of its Building Department

that they take these results for granted. The houses in which they live; the offices, factories or stores in which they work; the theatres, moving picture houses, halls and places of public assembly in which they spend their hours of recreation; the schools and hospitals; the churches in which they worship — all are structures the design and construction of which have been carefully checked and supervised.

Plans examined as follows:

	First Class.	Second Class.	Third Class.	Alterations.	Amendments.	Specials.	Total.
Approved	2	8	53	367	36	21	487
Not approved	0	3	7	141	11	9	171
Totals	2	11	60	508	47	30	658

Commencing June 1, 1943, a new classification of applications was necessary to conform to the new Building Code, chapter 479, Acts of 1938, as amended, and from June 1st to December 30th the following list of figures is according to said new code:

	Type I.	Type II.	Type III.	Type IV.	Type V.	Type VI.	Alterations.	Amendments.	Specials.	Total.
Approved	3	.....	.....	21	37	27	558	93	13	752
Not approved	0	.....	.....	2	4	2	188	17	0	213
Totals	3	.....	.....	23	41	29	746	110	13	965

Immediate action permits issued at counter	1,230
Applications refused where appellant referred to Board of Appeal	144
Pending last year	30
	174

N. B.— Of which 110 were granted, 20 were dismissed, 32 were abandoned, 2 were withdrawn and 10 are pending.

ZONING DIVISION.

Analogous to the work of the Plan Division, which is wholly administered by the office personnel, is the work of the Zoning Division which varies from that of the Plan Division in that drawings are analyzed and approved as being in compliance with the Zoning Law, a separate act of the Legislature, whereas the Plan Division analyze and approve the drawings as being in compliance with Building Law.

The Zoning Regulations as enacted is an act regulating and restricting the use of buildings and premises, the height and bulk of buildings, and the occupancy of lots in the City of Boston and for said purposes dividing the city into districts.

The following table summarizes the work of 1943:

Number of applications received for new buildings and alterations and zoned according to districts:			
Approved	.	.	1,563
Not approved	.	.	412
		—	1,975
Applications forwarded from Board of Street Commissioners for garage and gasoline licenses to be zoned before action taken by said Board			
	.	.	97
Applications from Police and Licensing Boards for new licenses and renewals			
	.	.	761
Applications refused where appellant referred to Board of Appeal			
	.	.	74
Pending last year	.	.	8 82

N. B.— Of which 49 were granted, 12 were dismissed, 3 were withdrawn, 6 were abandoned and 12 are still pending.

Applications from State House for signs . 16

PLUMBING DIVISION.

The art of plumbing means the incorporation into a structure of such pipes, fixtures and other apparatus and appurtenances as are necessary to bring in the water supply and remove liquids and water-carried wastes. As public health is vitally dependent on properly designed and constructed supply and waste systems, the importance of the Plumbing Division and its inspection force can be readily realized.

PLUMBING INSPECTIONS AND TESTS.

Plumbing, new	445
Plumbing, alterations	6,550
Plumbing, tests	335
	<hr/>
Total	<u>7,330</u>

SPRINKLER DIVISION.

In the year 1914, laws were enacted requiring sprinkler and standpipe equipment in certain buildings other than theatres and a large number of such installations have been made.

As is well known, a fire may occur in a first-class building or in a wooden shed and it is to be regretted that the use of automatic fire protection is not more general, especially as such installation brings about monetary reward in reduced insurance, aside from protection of life and property. The ultimate in automatic protection is reached when the system is so installed that the devices are influenced by heat in the shortest space of time and when the fire causing that heat is extinguished with the least amount of water.

FIRE RECORD.

Number of fires in sprinklered buildings	193
Number controlled before sprinklers operated	62
Number controlled by one sprinkler	75
Number controlled by two sprinklers	34
Number controlled by more than two sprinklers,	22

EXAMINATIONS AND REPORTS.

Sprinkler installations	1,469
Standpipe installations	218
Tests of both	1,349
	<hr/>
Total	<u>3,036</u>

Statement of Building Operations in the City of Boston for the Five Years Ending December 31, 1943.

	1943.		1942.		1941.		1940.		1939.	
	Num- ber.	Cost.	Num- ber.	Cost.	Num- ber.	Cost.	Num- ber.	Cost.	Num- ber.	Cost.
Type I (first class).....	52	\$5,202,690	57	\$5,614,690	59	\$4,307,229	46	\$3,839,788	136	\$10,487,777
Type II.....	—	—	—	—	—	—	—	—	—	—
Type III.....	—	—	—	—	—	—	—	—	—	—
Type IV (second class).....	37	309,936	37	297,475	133	1,596,645	131	1,274,482	118	1,570,100
Type V (special).....	38	81,509	57	423,695	84	414,485	98	179,046	81	193,470
Type VI (third class).....	77	160,130	249	884,090	512	1,756,575	480	2,713,211	267	1,052,041
Total new construction.....	204	\$5,844,265	401	\$7,219,950	788	\$8,074,934	755	\$7,006,527	602	\$13,303,388
Alterations, additions, etc.....	3,819	2,991,265	3,135	2,621,944	3,954	4,004,388	4,205	4,087,981	4,665	3,905,994
Total structural construction.....	4,023	\$8,835,530	3,536	\$9,841,894	4,742	\$12,079,322	4,960	\$11,094,508	5,165	\$17,209,382
Plumbing.....	1,239	\$416,858	1,939	\$618,466	3,280	\$1,712,465	3,241	\$1,344,513	3,317	\$2,125,668
Gasfitting.....	2,872	213,665	3,959	639,454	6,507	1,041,508	5,467	1,224,033	5,317	608,222
Heaters, ovens, engines, etc.....	105	59,736	244	100,653	485	326,266	392	281,282	284	278,141
Elevators, new freight.....	21	48,600	28	62,510	41	59,775	45	69,405	51	81,913
Elevators, new passenger.....	2	3,335	14	273,200	24	208,389	22	244,103	20	141,537
Elevators, alterations, freight.....	180	26,332	161	53,228	200	37,906	256	57,170	236	37,728
Elevators, alterations, passenger.....	288	75,418	299	69,712	359	129,175	434	114,059	467	97,716
Signs, projections, etc.....	114	12,416	177	23,736	430	92,966	611	149,241	485	100,816
Fire escapes.....	114	43,059	51	10,085	67	16,209	70	11,305	74	15,881
Take-downs, brick, etc.....	175	44,297	510	138,859	605	144,902	357	80,214	1,079	171,185
Take-downs, wood.....	58	49,271	98	38,509	459	169,862	185	81,545	314	135,777
Sprinklers.....	26	48,784	52	51,290	71	93,275	46	67,110	48	57,972
Excavations.....	3	1,900	2	300	7	5,900	10	6,845	11	35,800
Use of premises.....	14	—	15	—	50	—	65	—	56	—
Totals.....	5,211	\$1,043,671	7,549	\$2,080,002	12,585	\$4,038,598	11,201	\$3,720,824	11,759	\$3,888,356
Grand total all work.....	9,234	\$9,879,201	11,085	\$11,921,986	17,327	\$16,117,920	16,161	\$14,815,332	16,924	\$21,097,738
Department revenue.....	.....	\$30,809 75	.....	\$34,409 50	.....	\$50,106 85	.....	\$49,072 15	.....	\$46,740 90

ELEVATOR DIVISION.

Undoubtedly every person inhabiting or frequenting the multi-storied buildings in our city realizes the convenience provided them by the installation of elevators and dumb-waiters. However, very few are aware of the fact that each installation is made under the scrutinizing eye of the Building Department, through the agency of the Elevator Inspection Division.

There are in use within the city limits 6,314 passenger and freight elevators and escalators, and 2,100 dumb-waiters. In addition to the inspection of installation and maintenance of all elevators, these inspectors give an exacting and practical operation test to each passenger car operator.

ELEVATOR INSPECTIONS AND TESTS, 1943.

Inspections made	8,279
Complaints made	1,981
Complaints closed	2,047
Applications closed	1,563
New installations	47
Passenger elevators	8
Freight elevators	13
Escalators	0
Inclinators	0
Dumb-waiters	26
Alterations and repairs	769
Elevators shut down	17
Tests made	3,204
Approved	3,184
Failed — passenger	9
freight	11
Night tests	27
Accidents	67
Passenger	20
Freight	47
Dumb-waiter	0
Escalator	0
Fatal	10
Non-fatal	57
	<hr/>
	18,001
Applicants tested for operators' licenses	1,418
	<hr/>
	19,419
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ELEVATOR OPERATORS' LICENSES ISSUED.

New	2,573
Renewals	3,549
	<u>6,122</u>

GASFITTING DIVISION.

The Gasfitting Division inspects the installation of gasfitting and gas appliances, particularly as to proper combustion and the elimination of gases and fumes through proper types of flues; also as to the locations of appliances in the room and its enclosure, and insist upon having a proper supply of air maintained to prevent the accumulation of carbon monoxide gas.

Accidental fatalities due to illuminating gas installations have, by rigid inspection and administration of law, been reduced from 82 in 1918 to 2 in 1943.

For some unaccountable reason, probably due to prohibiting the use of flexible connections and such in connection with gas installations, suicides have also been reduced from a maximum of 43 in 1917 to 14 in 1943, 2 accidental.

GASFITTING INSPECTIONS AND TESTS.

Gasfitting	1,219
Gasfitting, alterations	9,104
Gasfitting, tests	3,267
Total	<u>13,590</u>

GASFITTERS' LICENSES.

Master, new	17
Master, renewals	441
Journeymen, new	24
Journeymen, renewals	503
Total	<u>985</u>
Fees	<u>\$750.50</u>

SUMMARY OF EXAMINATIONS AND REPORTS, 1943.

New buildings	1,402
Alterations	15,802
Existing buildings	8,738
Boilers, engines, etc.	110
Plumbing, new	445
Plumbing, alterations	6,550
Plumbing, tests	335
Gasfitting, new	1,219
Gasfitting, alterations	9,104
Gasfitting, tests	3,267
Egress	17,246
Elevators	19,419
Sprinklers	1,469
Standpipes	218
Tests of both	1,349
Zoning	2,849
Plans and applications	2,853
Fires	1,071
Concrete and piling	124
Gas asphyxiations	14
Building accidents	17
Complaints made	552
Specials	164
Finals	2,672
Communications acted on	5,018
Special detail	1,402
	<hr/>
	103,409
	<hr/>

Examinations for Sewer Division — 30 hours.

Schools attended by Supervisors and Inspectors of this department in the interest of the war effort.

January 18, 19, 20 and 21, 1944 — Rescue School at Providence, Rhode Island.

April 22 for a week — War Department Civil Protection School at Latin School.

FINANCIAL REPORT, 1943.

A. PERSONAL SERVICE:	
1. Permanent employees	\$162,580 68
2. Temporary employees	23,434 21
B. SERVICE OTHER THAN PERSONAL:	
1. Printing and binding	77 45
3. Advertising and posting	8 50
4. Transportation of persons	2,812 17
12. Bond and insurance premiums	12 50
14. Motor vehicle repairs and care	37 00
35. Fees, services of venires, etc.	40 30
37. Photographic and blueprinting	30 14
39. General plant	140 25
42. Miscellaneous	10,912 04
C. EQUIPMENT:	
4. Motor vehicle	1,032 02
9. Office	—
10. Library	60 00
13. Tools and instruments	—
15. Tires, tubes and accessories	23 44
16. Wearing apparel	137 50
17. Miscellaneous	32 10
D. SUPPLIES:	
1. Office	1,690 61
11. Motor vehicle	130 78
13. Chemicals, etc.	79
16. Miscellaneous	18 80
E. MATERIALS:	
10. Electrical	11 73
13. Miscellaneous	—
F. SPECIAL ITEMS:	
7. Pensions and annuities	1,350 00
H. W. P. A.	
Grand total*	<u>\$204,573 01</u>
Appropriation	<u>\$210,101 18</u>
Income	<u>\$30,809 75</u>
I. Civilian Precautionary Assistance	
1941 — Unliquidated Reserve*	\$169 55
	\$3,058 89

* Included in total.

On January 1, 1943, there were (estimated) in the City of Boston:

Brick and other fire resisting buildings	44,986	
Erected during 1943	125	
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	45,111	
 Taken down during 1943	58	
Destroyed by fire	—	
	<hr/>	
	58	
	<hr/>	45,053
Wooden buildings existing January 1, 1944	92,925	
Erected during 1943	78	
	<hr/>	
	93,003	
 Taken down during 1943	175	
Destroyed by fire	—	
	<hr/>	
	175	
	<hr/>	92,828
	<hr/>	
 Total number of buildings (estimated) in Boston January 1, 1944		<u>137,881</u>

ITEMS OF INTEREST.

Tallest buildings:

- Custom House, 495 feet.
- United Shoe Machinery Building, 290 feet.
- New England Mutual Life Insurance Company Building,
tower 280 feet.
- Ames Building, 196 feet.
- Sears-Roebuck Building, 192 feet.
- Tower Building, 245 feet.
- Post Office Building, 345 feet.
- Court House, 330 feet.
- Massachusetts General Hospital Surgical Building, 188
feet.

Covering greatest ground area:

- South Station, 1,467,522 square feet.

Smallest mercantile building:

- 212 State street, $2\frac{1}{2}$ stories high, 4 feet 9 inches front, 50
feet deep, ground area, $237\frac{1}{2}$ square feet.

Costliest building:

- Storehouse, Army Supply Base, South Boston.

Oldest building:

- Paul Revere House, 1660.

Largest garage under a single roof in the world, Motor Mart.

BOARD OF APPEAL.

We submit herewith a summary of the decision of the Board of Appeal rendered during the period between January 1 and December 31, 1943.

Many of the appeals were in regard to technical questions as to the meaning of the law. The Building Code was originally written in 1907 and due to present-day living conditions, as well as the rapid growth and developments in industry, newer and better building materials now on the market, the value of various substances used such as steel and concrete (which have been proven by reputable Bureaus of Research and Science) many cases were not contemplated by the Act although covered by it. In every instance where the Board granted relief — about 75 per cent of which were with modifications — the Board was of the opinion that the varying of the provisions of act did not conflict with the spirit of any provision of same, and that it was a specific case wherein it was a manifest injustice to refuse the appellant a permit.

In May, 1943, the new Boston Building Code went into effect. Due to the difficulty in constructing in accordance with the new Building Code because of the building materials coming under critical materials needed for war emergency uses, there were many cases coming before the Board requesting the use of obtainable materials that were not permitted by the new Building Code. The Board varied the provisions of the Building Code for the duration of the war.

The Board of Appeal provided under the Building Code also acts as a Board of Appeal under the Zoning Act, chapter 488, Acts of 1924, as amended.

Boston was many years old before the adoption of the Zoning Act, and because of technical violations of uses permitted in various zones, and problems arising in the development of vacant land, as well as vacant buildings in the City of Boston, proponents of business enterprises would have established their plans of industry in other cities where the zoning regulations were not so strict had not the Board varied the terms of the act on particular parcels of land in specific cases. In every instance where a varying of the terms of the Zoning Act was permitted, the Board was unanimously convinced that a strict enforcement of the act involved

substantial hardship upon the appellant and that desirable relief could be granted without substantial detriment to the public good, and without substantially derogating from the intent and purpose of said act.

Attached herewith is a statistical summary of the work of the Board during the past year.

Respectfully submitted,

For the Board of Appeal,

JAMES A. McELANEY,
Secretary.

The following is a statistical summary of the work of this department for the year 1943:

In re Old Building Law — chapter 550, Acts of 1907, as amended:

Appeals received	71
Appeals withdrawn	2
Appeals sustained	4
Appeals sustained with proviso	52
Appeals dismissed	13

In re New Building Law — chapter 479, Acts of 1938, as amended:

Appeals received	66
Appeals pending	2
Appeals withdrawn	3
Appeals sustained	18
Appeals sustained with proviso	38
Appeals dismissed	5

Total number of Building Law cases heard in 1943, 137

In re Zoning Law — chapter 488, Acts of 1924, as amended:

Appeals received	71
Appeals pending	1
Appeals withdrawn	4
Appeals sustained	25
Appeals sustained with proviso	28
Appeals dismissed	13

BOARD OF EXAMINERS.

In 1912, after a series of accidents on building operations in Boston, a committee representing the Master Builders', Engineers' and Architects' Associations presented to the Massachusetts Legislature a bill proposing that all such construction work be performed under the direction of properly qualified persons. Upon passage of said bill, chapter 713 of the acts of that year provided that the City of Boston prescribe by ordinance the requirements for those desiring to be so registered.

In January, 1913, such an ordinance was passed by the Council and approved by the Mayor. In accordance with the terms the Board of Examiners was established in the Building Department and the first members, an architect, a mason and a construction engineer were appointed. From the various builders' and trades' organizations representatives assisted in framing regulations and deciding the classes of registration and the methods of qualifying applicants for license. After study certain rules were adopted and classes established, and the work of issuing licenses was begun. But because of the necessarily brief time in which a great number of applications must be considered, certain licenses were granted under a section of the law which permitted qualification upon the furnishing of proper affidavits. Other aspirants were required to pass examination.

In 1920 the first of several amendments to this ordinance was passed by the Council. This action was the result of agitation by the Board and was followed by the recall of all licenses previously issued. Between 1920 and 1922, 3,000 applicants for re-issue or new license had been called before the Board. Each submitted to individual examination. Of those appearing only 1,800 qualified for license in the various classes. All registrants were instructed as to their responsibility in the possession of such license, namely, the necessity of cooperation with the Building Department as well as the desire to protect the interest of the owner on all work. The primary purpose of the law had been and would continue to be the prevention of accident.

The work of examining and registering construction superintendents continued with the requirement of annual renewal of license an opportunity for contact between the Board of Examiners and all licensed men.

With the passage of the new Building Code during the past year a rearrangement of classes of license has become necessary. New divisions must coincide with the types of buildings under the law. These regulations will afford a further means of compiling a registry of capable superintendents whose aim will be to work in conjunction with the Building Department. Success of the plan of licensing builders is evident from the attitude of neighboring communities and the similar legislation now in force in several of the larger cities. It has the endorsement of building officials generally and the public is fast becoming conscious of its advantages.

During 1943 the Board acted upon applications as follows:

	Approved.	Rejected.	Fees.
New licenses and re-issues	323	46	\$1,615 00
Renewals	1,765	3	3,530 00
Special licenses	577	83	577 00
Total			\$5,722 00

EXTRAORDINARY ACTIVITIES DUE TO WAR.

The work of this department has been increased tremendously in many phases of its activities due directly or indirectly to the war conditions—in particular as below related:

1. As requested by the Captain of the Port, members of this department have made at least ten complete surveys of all water front properties, both those on the shore line as well as those on docks and piers. Such surveys have required the personal attention of the Building Commissioner in as much as he has accompanied the Naval and Coast Guard authorities on the tours above described when the same were conducted from the waters of the harbor.

The inspections from the water side of properties were very complete and could not be considered cursory examinations. Such examinations of premises covered every inch of the water front and required landings at the properties considered by the military authorities not to be to their satisfaction. That the desire of the military authorities to eliminate entirely or correct the existing conditions of structures visited could be complied with, it was necessary to utilize the services of a number of building inspectors who repeatedly inspected the structures, caused legal notices to be served, made contractual agreements for the razing of some and caused repairs to be made to others. The number of buildings requiring departmental attention was approximately 37, the number of inspections required was approximately 400, time consumed in prosecutions in the courts was approximately eighty hours.

The Building Commissioner was the recipient of a vote of thanks by the Naval and Coast Guard officials comprising the Boston Water Front Protective Committee for the work he performed in connection with the activities above stated and said vote has been read into the records of the Boston Port Authority. A great many of the problems involved in complying with the military authorities' requests were of an extremely confidential nature to the extent that the Building Commissioner was not privileged to delegate the work to the regular departmental personnel and of necessity had to make many of the inspections personally.

2. *Accommodations for Service Men.*—Due to the tremendous influx of members of the armed forces into the city, particularly on week-ends, all persons interested in providing lodgings, entertainment and such for service people have been confronted with the problems of lack of space, particularly to provide sleeping accommodations. That service people could be afforded at least the minimum protection provided by law, —this department canvassed all agencies catering to service men to establish the capacities of accommodation permitted

by law. In this manner, fifteen police stations were issued lodging house licenses at the direction of the Building Department and likewise many private clubs, organizations and societies, as well as all U. S. O. organization buildings were inspected and the capacity of each determined. Many drawings showing bed layouts were examined, both for accommodations and egress for the occupants, and it was necessary, in many instances, for the inspectors to visit special locations as many as eight or ten times before compliance with provisions of the law was acquired. Such activities of the members of the department involved thirty establishments and approximately 240 inspections.

3. *Civilian Defense.*— That occupants of buildings would be afforded the protection a structure might provide, at least ten members of this department attended courses instituted by Harvard and Northeastern Universities and Massachusetts Institute of Technology to obtain knowledge of what types of structure provide the maximum protection from enemy bombings. Many of the courses were of five days' duration and were of a highly technical character and they imparted to the qualified engineers privileged to attend the courses the most advanced knowledge available in connection with safety of persons within buildings due to enemy activities.

Subsequent to receiving certificates upon completion of the courses, these men were delegated the work of examining public and private buildings to determine the proper place of safety within same for the occupants to congregate. The buildings included the Public Library and all branches, public and parochial school buildings, banks, commercial buildings and manufacturing plants, department stores, private houses and underground structures, such as subways.

Requests for inspections originated in many organizations, — such as the Massachusetts Committee of Public Safety and the City of Boston Committee of Public Safety. Hundreds of inspections were made over the period of two years; buildings were evaluated for their protective capacities by predetermined formulas. Such work involved many, many hours, both in study and analysis, to arrive at what we believed to be correct solutions of the problems involved.

It is a little difficult to approximate the time required in these extraordinary activities without perusing all departmental records to the extent that this report would be considerably delayed. There have been a great many other activities which might be considered due to the war which are not included above, as most of them would be due indirectly to the war more so than directly due to same.

